

UNITED STATES DEPARTMENT OF AGRICULTURE

BUREAU OF ENTOMOLOGY

FOREST INSECT INVESTIGATIONS

S
Insect Control, D-1
(Annual Report, 1927)

January 26, 1928

ANNUAL FOREST INSECT REPORT

Season of 1927

Approved: January 30, 1928:

Assistant District Forester.

January 26, 1928.

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INTRODUCTION

It is the purpose of this report to summarize the annual insect status reports which are submitted from the Forests of District 1. These reports are of intrinsic value in that they not only serve to present a picture of the insect conditions within the District but from them a historical record of the insect outbreaks of each Forest is being established. A tabulation of these reports has been made and is attached to this summary.

Ranger reports were received from 140 areas. Forty-nine of these showed no infestation, or it was of such minor importance that its inclusion within this summary was not believed to be warranted, while 91 reported increasing, decreasing, or normal infestations. Of these 91 reports there were only 14 recommendations for control, though 28 more were doubtful. Of the 24 Forests reporting, the Cabinet was the only one reporting no insect outbreaks whatever.

A brief summary of the reports received follows:

Mountain Pine Beetle
(*Dendroctonus monticolae*)

Increasing	24
Decreasing	10
Normal	11
Total	<u>45</u>

Western Pine Beetle
(*Dendroctonus brevicornis*)

Increasing	1
Decreasing	1
Normal	2
Total	<u>4</u>

Douglas Fir Beetle
(*Dendroctonus pseudotsugae*)

Increasing	3
Decreasing	3
Normal	3
Total	<u>9</u>

White Fir Beetle
(*Scolytus subscaber*)

Increasing	1
Decreasing	0
Normal	2
Total	<u>3</u>

Spruce Budworm
(*Cacoecia fumiferana*)

Increasing	21
Decreasing	0
Normal	0
Total	<u>21</u>

Epidemics of the mountain pine beetle in the white pine stands of the District are seriously increasing in size and number. Increasing outbreaks of this insect in white pine were again reported from the Coeur d'Alene, Pend Oreille, St. Joe, Flathead and Kootenai Forests, with the Flathead, Kootenai and Kaniksu reporting new outbreaks for the 1927 season.

The status of the mountain pine beetle in lodgepole pine remains somewhat the same as in past years. The Nezperce, Beaverhead, Bitterroot, Blackfeet, Deerlodge, Jefferson and Missoula Forests once more report increasing outbreaks of this insect, with new infestations on the Flathead and Jefferson.

New outbreaks of the Douglas fir beetle were reported from the Blackfeet, Flathead and Missoula Forests, while the Coeur d'Alene, Absaroka, Bitterroot and Lewis and Clark again report normal or decreasing infestations.

The spruce budworm epidemic has reached a magnitude of alarming proportions. New outbreaks are reported from the Clearwater, Selway, St. Joe, Bitterroot, Gallatin and Madison Forests, while the Nezperce, Selway and Helena Forests continue to report existing infestations as increasing rapidly. This insect is rather firmly established throughout the District, though the severest condition exists within the Selway and Nezperce National Forests. Of the 784,480 acres of this District which are reported to be infested, 767,000 of them lie within the boundaries of these two Forests. It is apparent that this epidemic is spreading very rapidly not only within the areas infested but is making rather long jumps to other regions. The Nezperce Forest shows that the area infested by this insect increased 155 per cent during the past season and that there are now approximately 437,000 acres covered by this epidemic within that Forest alone. There is no doubt but that a large per cent of the timber within the infested areas of this district will die during the next few years as a result of the defoliation.

The Madison Forest reports that the epidemic of the needle tyer at West Yellowstone, which was first reported in 1924, has continued to spread throughout that region and that a large acreage

of timber has been destroyed. Normal infestations of Ips beetles working in lodgepole pine were reported from the Flathead and Madison National Forests.

Control measures against outbreaks of the mountain pine beetle in white pine were recommended for areas on the Clearwater, Coeur d'Alene, Pend Oreille, Selway, Flathead, and Kootenai Forests, while in lodgepole pine the Beaverhead, Bitterroot, and Deerlodge Forests recommended the institution of control.

The Missoula Forest requests control for an outbreak of the Douglas fir beetle in Douglas fir, while practically all the Forests experiencing spruce budworm damage are requesting control, if methods are available. Requests for examinations of specific areas by forest entomologists came from the Nezperce, Blackfoot, Missoula, and Kaniksu National Forests.

1927 FIELD SEASON

Insect Surveys

Beaverhead National Forest

In connection with the Big Hole Basin project a survey of the infested areas was made during the summer. The purpose of this survey was to determine the status and extent of the 1927 infestation, in order that control operations could be adequately planned for the season of 1928.

Kootenai National Forest

During the latter part of September an examination was made of the Pete Creek, Meadow Creek and O'Brien Creek drainages. These

areas were examined for the purpose of determining the results of control measures conducted on the Pete Creek drainage during the past two seasons, and to ascertain the status of the infestation within the white pine stands of the other two regions.

Coeur d'Alene National Forest

Surveys were made of the Big Elk Creek and Cascade Creek drainages of the Coeur d'Alene National Forest for the purpose of locating an area which would be suitable for the institution of an experiment in maintenance control against a normal infestation of the mountain pine beetle in white pine. Experiments in connection with this problem had previously been conducted on the Independence Creek drainage which was destroyed by fire in 1926.

Control Operations

Beaverhead National Forest

During the past season control measures were conducted within the Big Hole Basin in accordance with the plan of control as adopted in 1925 by the Bureau of Entomology and the Forest Service. This project is directed against an epidemic of the mountain pine beetle which apparently has been spreading southward along the Continental Divide for many years. It is hoped that as the infestation spreads from the East Fork of the Bitterroot River into the Big Hole Basin all or a large per cent of the infested trees can be treated each year, which is expected to check the epidemic and protect the valuable timber stands to the south. It will be necessary to continue this

project until such a time as the epidemic on the Bitterroot, from which the reinfestation within the Big Hole Basin occurs, no longer exists. During the past season 17,546 trees were treated at an actual cost of \$31,205.00, or \$1.77 per tree. This is a reduction over the previous year's work of \$0.50 per tree, or 22 per cent. The work was greatly handicapped by weather conditions which undoubtedly raised the cost of treatment and prevented the covering of the entire area. Data secured from the survey conducted last summer proved that the infested area was a great deal larger than had heretofore been assumed and that in 1928 a large expenditure of funds would be necessary if the work was to be at all effective. In view of the timber values at stake, it was believed that the expenditure of funds necessary for the continuance of this project was justified.

Kootenai National Forest

In the spring of 1926 control measures were instituted in the Pete Creek drainage of the Yaak River in an attempt to reduce an outbreak of the mountain pine beetle in a somewhat isolated area of white pine. This project was instituted entirely upon an experimental basis, as a few miles to the north there existed a very severe epidemic of the same insect in lodgepole pine. Though there was no physical connection of the infestations within these two areas, there could be no assurance that the inception of the outbreak in white pine was not from the lodgepole pine a few miles

to the north. However, due to the valuable entomological data to be secured and the timber values at stake, it was felt that the cost of the experiment was more than justified. At that time 693 infested trees were treated at a total cost of \$3.73 per tree. A subsequent survey of the area showed that during the summer a rather severe reinfestation occurred and it was again necessary to institute control measures during the season of 1927. Approximately 660 trees were treated during the past season at a cost of \$2.54 per tree, which is a reduction over the previous season of \$1.19, or 31 per cent. During the past season an extensive survey was made of this area and considerable reinfestation found, even though the region had been very thoroughly cleaned by control measures during the past two seasons. This fact seemed to leave but little doubt that the annual reinfestation within the area came from the lodgepole pine epidemic to the north. However, it is felt that the continuation of this project is justified and if funds are available control measures will again be instituted.

Investigations Conducted by Bureau of Entomology

Though the investigative program of the Coeur d'Alene Station is a rather large one, its efforts are directed almost entirely towards the improvement of our present methods of control and the development of new ones. Intensive studies in connection with this work have been conducted on the East Fork of the Bitterroot River for the past three years. Various methods have been and are in the process of being tested at this time.

PROPOSED CONTROL PROJECTS FOR 1928

Beaverhead National Forest

The plans for the continuation of the Big Hole Basin insect control project during the season of 1928 are fairly definitely settled at this time. Funds have been allotted and the project will be carried forward on a much larger scale than at any time during the past.

Kootenai National Forest

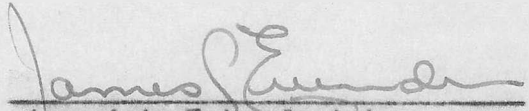
Though it is realized that the Big Hole Basin project has priority rights on all allotments and that it will be necessary to concentrate all available funds upon that project, the following recommendations have been made so that in the occurrence of unforeseen circumstances they can be adopted if funds are made available. These recommendations include the institution of artificial control measures against outbreaks of the mountain pine beetle in white pine within the Pete, Meadow and O'Brien Creek drainages of the Kootenai National Forest.

CONCLUSION

Entomological work within this District will proceed along practically the same lines as in the past. The institution of control projects will be governed by the funds available and

surveys and examinations of infested areas will be made during the latter part of the summer. Intensive research studies in concurrence with the investigative program of this station will proceed as planned.

Assistant District Forester
Office of Forest Management.


Associate Entomologist
Bureau of Entomology.

Approved: February 1, 1928

District Forester.

IDAHO FORESTS

Area	Insect	Host	Increasing: Decreasing	First Reported	Control Recommended
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Clearwater National Forest

Eldorado	S. Budworm	DF ES WF	Increasing	1927	?
Mud Creek	S. subscaber	WF	Normal	1927	No
Slope of Sheep Mt.	MPB	WF	Stationary	1925	?
North Fork River	MPB	WF	Stationary	1927	Yes
Moose City Basin	MPB	WF OP	Decreasing	1927	No

Coeur d'Alene National Forest

Big Elk Creek	MPB	WF	Increasing	1925	Yes
Little North Fork	MPB	WF	Increasing	1925	Yes
Tourist Creek	DFB	DF	Normal	1927	No
Burnt Cabin Creek	S. subscaber	WF	Normal	1927	?
Falls Creek	MPB	WF	Normal	1925	No

Nezperce National Forest

Between Snake & Salmon R.	P. butterfly?	DF YP ES OP	Decreasing	1925	No
Ranger Dist. #3	S. Budworm	WF DF ES L	Increasing	1924	?
S.Fk. Clearwater	S. Budworm	WF DF ES AF	---	1924	?
Elk City District	S. Budworm	ES WF DF AF	Increasing	1924	?
Red River)					
Moose Creek)					
Bargamin Cr.)	S. Budworm	DF WF	Increasing	1924	?
Otterson Cr.)					
Lower Big)					
Mallard Cr.)					
Hell's Half-Acre	MPB	OP	Increasing	1926	?
White Cap & Canyon Cr. Dr.	S. Budworm	WF ES DF	Increasing	1924	Yes

Pend Oreille National Forest

Smith Creek	MPB	WF	Increasing	1924	Yes
Twin Creek	MPB	WF	Normal	1927	No

Selway National Forest

Cab & Brushy Fk. Crs.	S. Budworm	DF WF ES	Increasing	1926	?
Iron Mt.)					
Bear Grass Units)	S. Budworm	WF ES	Increasing	1926	No
Fish Lake Dr.-Lost & Indian Grave Crs.	S. Budworm	ES AF OP	Increasing	1926	?

IDAHO FORESTS

Area	:	Insect	:	Host	:Increasing:	First	: Control
	:		:		:Decreasing:	Reported:	Recommended

Selway National Forest (Cont'd)

Middle Fork Dist.	S.Budworm	ES	DF	WF	--	1926	?
Meadow Cr. Dist.	S.Budworm		WF		Increasing	1927	No
Moose Cr. Dist.	S.Budworm	WF	ES	DF	Increasing	1927	?
Moose Cr. Admin.Site	MPB		YP		Increasing	1927	Yes

St. Joe National Forest

Nuggett & Bottle Crs.	MPB		WP		Normal	1927	No
Spokane Meadows	S.Budworm		ES		Increasing	1927	?

MONTANA FORESTS

Absaroka National Forest

Mill Cr., Six Mile & Emigrant Creeks	MPB		OP		Decreasing	1927	No
" " "	DFB		DF		Decreasing	1927	No
Hellroaring Cr.	DFB		DF		Increasing	1927	No

Beartooth National Forest

No infestations reported.

Beaverhead National Forest

No ranger reports submitted.

Bitterroot National Forest

Big Creek	S.Budworm	DF	ES		Increasing	1927	No
Rye & Skalkaho Creeks	MPB		OP		Normal	1924	No
" " " "	DFB		DF		Normal	1924	No
West Fork Dst.	MPB		OP		Decreasing	1925	No
Upper East Fork Dr.	MPB		OP	YP	Increasing	1924	Yes
" " " "	DFB		DF		Decreasing	1924	No

Blackfeet National Forest

Wolf Creek Dist.	MPB		OP		Increasing	1926	?
Tally Lake Dist.	DM?		OP		Increasing	1924	No
" " "	Balsam fir beetle	B.Fir			Increasing	1924	No
Upper N.Fork Dist.	MPB		OP		Normal	1927	No
Fortune Dist.	DFB		DF		Normal	1927	No
" " "	Balsam fir beetle	B.Fir			Normal	1927	No

MONTANA FORESTS

Area	Insect	Host	:Increasing: :Decreasing:	First Reported:	: Control :Recommended
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Cabinet National Forest

Ranger reports from five districts. No insect infestations reported.

Custer National Forest

Whitetail Dist.	--	YP	Normal	1927	?
Ranger Dist. 3 & 25	MPB & WPB	YP	Normal	1927	No

Deerlodge National Forest

Deerlodge Dist.	MPB & WPB	OP YP	YP stationary OP normal	1921	No
Georgetown & Echo Lakes	MPB	OP	Increasing	1926	No
Pintlar Cr. to French Gl.	MPB	OP	Increasing	1924	Yes
White Pine Cr.	MPB	OP DF?	Increasing	1927	Yes
Whitetail Dist.	MPB	OP	Normal	1927	No
Boulder Dist.	MPB	OP	Stationary	1927	No

Flathead National Forest

Schafer Flat	Ips sp.	OP	Decreasing	1926	No
Big Prairie Dist.	MPB	OP	Normal	1927	No
South Fork Drainage	MPB	OP	Normal	1927	No
" " "	DFB	DF	Increasing	1927	No
Trout Lake	MPB	WP	Increasing	1927	Yes
Coram Dist.	MPB	OP	Increasing	1926	No
Krause Cr. Basin	MPB	WP	Decreasing	1927	No

Gallatin National Forest

Placer & N.Fk. Spanish Crs.	MPB	OP	--	1927	No
Fridley Creek	Sp. Budworm	DF	Increasing	1927	?
Jackson Cr.	S. Budworm	DF	Increasing	1927	Yes
Upper Gallatin Dist.	MPB	OP	Normal	1927	?

Helena National Forest

Cabins Gulch, Russell Fork & S. Side Deep Cr.	S. Budworm	DF	Increasing	1924	?
Blackfoot Dist.	MPB	OP	Decreasing	1922	?

Jefferson National Forest

Upper Dry Wolf	MPB	OP	Increasing	1927	No
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MONTANA FORESTS

Area	Insect	Host	Increasing: Decreasing:	First Reported:	Control Recommended
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Kootenai National Forest

S.Fk Meadow Cr.	MPB	WP	Increasing	1927	?
O'Brien Creek	MPB	WP	Increasing	1927	?
Bear Creek	MPB	WP	Increasing	1926	Yes
Swamp Cr. Pasture	MPB	WP	Normal	1927	No
Pinkham Creek	MPB	OP	Decreasing	1926	No
W.Fk. Quartz Cr.	MPB	WP	Increasing	1927	Yes

Lewis and Clark National Forest

Dearborn	DM?	OP	Decreasing	1926	No
"	DFB	DF	Decreasing	1926	No

Lolo National Forest

Moose Creek	S.Budworm	DF WF ES	Increasing	1927	No
Papoose Cr. Drainage	S.Budworm	WF ES	Increasing	1925	No
Wood Gulch	WPB	YP	Increasing	1927	No
Edith Creek	WPB	YP	Decreasing	1927	No
Savenac Dist.	S.Budworm	Larch	Increasing	1927	?

Madison National Forest

Madison River Basin	Needle tyer	OP	Increasing	1924	?
" " "	Ips oregoni	OP	Normal	1924	?
Cascade Creek	S.Budworm	Spruce	Increasing?	1927	No

Missoula National Forest

Upper Rock Creek & Flint Cr.	MPB	OP	Increasing	1924	No
Upper Rock Cr.	MPB	OP	Increasing	1925	?
Monture Dist.	MPB	OP	Decreasing	1925	No
S.W. Slope Morrell Mt.	DFB	DF	Increasing	1927	Yes

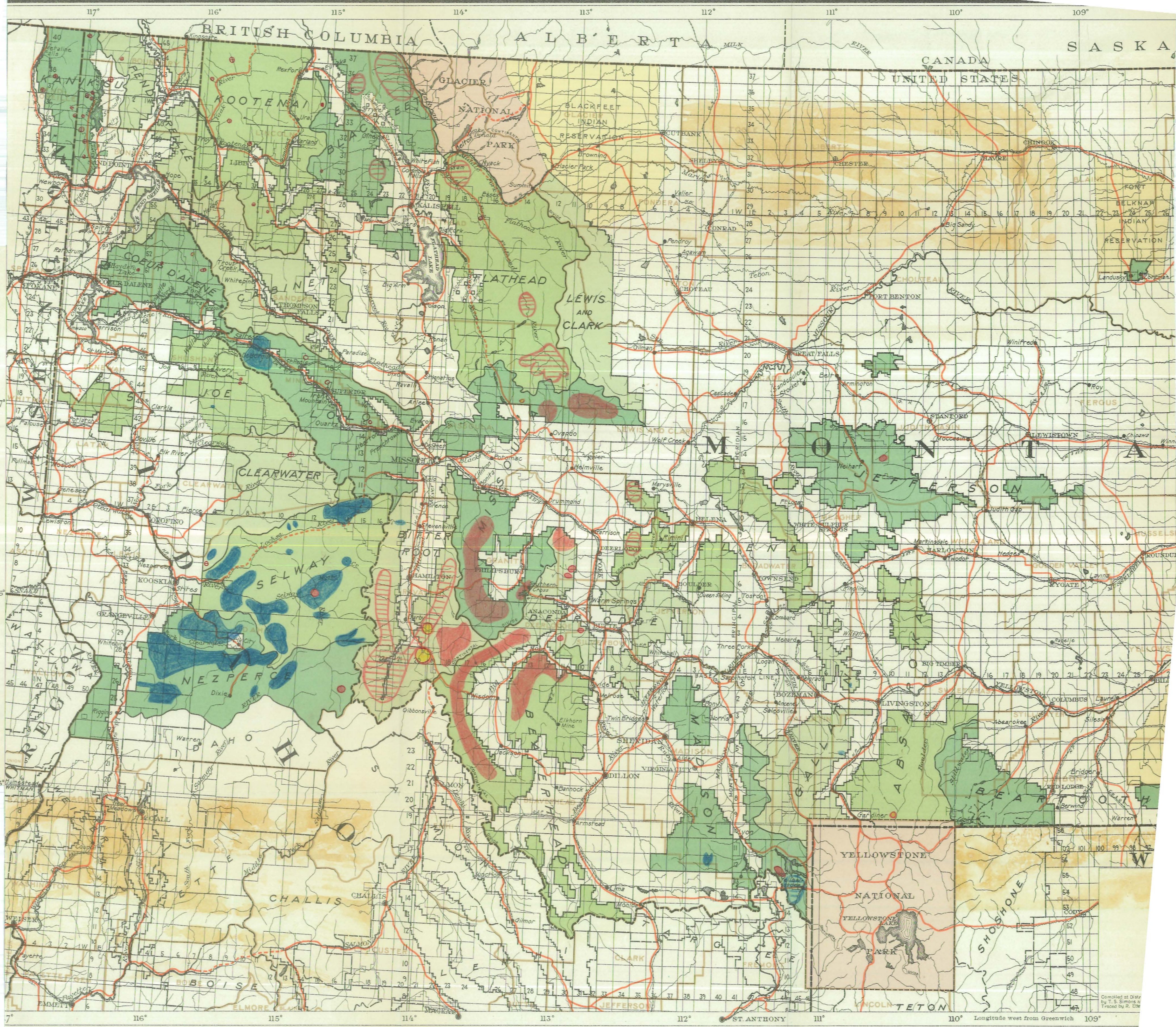
Kaniksu National Forest - Idaho & Washington

Upper Priest River	MPB	WP	Increasing	1927	No
Halfway Area & Quartz Cr.)					
Upper W. Branch, Cotton-wood & Pelke Creeks)	MPB	WP	Increasing	1927	No

Area	:	Insect	:	Host	:	Increasing:	First	:	Control
	:		:		:	Decreasing:	Reported:	:	Recommended

Kaniksu National Forest (Contd)

Malispell Cr. Drainage	}	MPB	WP	Decreasing on sale area 1927 Increasing on other areas	1927	No
Lamb Cr., Hanson &						
Reeder Creeks						
Dry Canyon & Harvey Cr.		MPB	WP	Increasing	1927	?
Lower Granite		MPB	WP	Increasing	1927	?
Lion Creek		MPB	WP	Decreasing	1927	?



Compiled at Dist.
by T. S. Simons
Traced by R. E. E.